

Serial No. 09/992,686

Attorney Docket No. 051448-0203

AMENDMENTS

Claim amendments:

1. (Currently Amended) A method for determining the desirability of programming events, comprising:
receiving metadata describing programming events, the metadata that describes a programming event being comprised of goodness of fit scores associated with respective categories, and at least one of descriptive data and keyword data,

wherein the categories are arranged in a hierarchy comprising at least a set of top-level categories, respective sets of first level sub-categories each corresponding to and encompassed by a top level category, and respective sets of second level sub-categories each corresponding to and encompassed by a first level sub-category; and ranking the programming events in accordance with viewing preferences expressed in at least one viewer profile,

wherein each of the at least one viewer profiles is comprised of preference scores associated with categories of the classification hierarchy, and at least one keyword, and

wherein said ranking is performed such that programming events having keyword matches are ranked higher than programming events not having keyword matches, and programming events not having keyword matches are ranked based upon category matches.

2. (Canceled)

3. (Previously Amended) The method claimed in claim 1, wherein said ranking comprises:

determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched

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category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile; and

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match of the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile.

4. (Original) The method claimed in claim 3, wherein each keyword match score is greater than a greatest possible category match score, and wherein said ranking is based upon said keyword match scores and said category match scores.

5. (Original) The method claimed in claim 3, wherein said programming event metadata further comprises a time and duration of the corresponding programming event, and wherein the method further comprises determining a programming event recording schedule in accordance with said keyword match scores and said category match scores of the programming events and the times and durations of the programming events.

6. (Previously Amended) The method claimed in claim 1, wherein said programming event metadata further comprises a time of the corresponding programming event, and wherein the method further comprises determining a programming event alert schedule in accordance with said ranking of the programming events and the times of the programming events.

7. (Original) The method claimed in claim 6, wherein the schedule comprises not more than a predetermined number of programming events within a given time period as specified in a viewer profile.

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8. (Original) The method claimed in claim 1, wherein said ranking comprises:

determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile;

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match between the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile; and

determining a qualified keyword match score for each programming event having a qualified keyword match, wherein a qualified keyword match is a match between a qualified keyword of the at least one viewer profile and the at least one of descriptive data and keyword data of the metadata of a programming event having a goodness of fit score in the category associated with the qualified keyword.

9. (Original) The method claimed in claim 1, wherein the at least one viewer profile further comprises at least one qualified keyword comprising a keyword associated with a category of the category hierarchy,

wherein said ranking further uses the at least one qualified keyword of the at least one viewer profile to determine rank based upon qualified keyword matching, and

wherein said ranking is performed such that programming events having qualified keyword matches are ranked higher than programming events having keyword matches, programming events having keyword matches are ranked higher than programming events not having keyword matches and not having qualified keyword matches, and programming events not having keyword matches and not having qualified keyword matches are ranked based upon category match scores.

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10. (Original) The method claimed in claim 9, wherein each qualified keyword match score is greater than a greatest possible keyword match score, each keyword match score is greater than a greatest possible category match score, and wherein said ranking is based upon said qualified keyword match scores, said keyword match scores and said category match scores.

11. (Original) The method claimed in claim 9, wherein a programming event having a qualified keyword match is ranked relative to other programming events having qualified keyword matches in accordance with the preference score associated with the category of each matched qualified keyword in its corresponding viewer profile.

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12. (Original) The method claimed in claim 9, wherein said programming event metadata further comprises a time and duration of the corresponding programming event, and

wherein the method further comprises determining a programming event recording schedule in accordance with said qualified keyword match scores, said keyword match scores and said category match scores of the programming events and the times and durations of the programming events.

13. (Original) The method claimed in claim 9, wherein said programming event metadata further comprises a time of the corresponding programming event, and

wherein the method further comprises determining a programming event alert schedule in accordance with said qualified keyword match scores, said keyword match scores and said category match scores of the programming events and the times of the programming events.

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14. (Original) The method claimed in claim 13, wherein the schedule comprises not more than a predetermined number of programming events within a given time period as specified in a viewer profile.

15. (Currently Amended) A program-controlled device for determining the desirability of programming events, the device comprising a computer readable medium having stored therein programming instructions to perform data processing, the processing comprising:

receiving metadata describing programming events, the metadata that describes a programming event being comprised of goodness of fit scores associated with respective categories, and at least one of descriptive data and keyword data,

wherein the categories are arranged in a hierarchy comprising at least a set of top-level categories, respective sets of first level sub-categories each corresponding to and encompassed by a top level category, and respective sets of second level sub-categories each corresponding to and encompassed by a first level sub-category; and ranking the programming events in accordance with viewing preferences expressed in at least one viewer profile,

wherein each of the at least one viewer profiles is comprised of preference scores associated with categories of the classification hierarchy, and at least one keyword, and

wherein said ranking is performed such that programming events having keyword matches are ranked higher than programming events not having keyword matches, and programming events not having keyword matches are ranked based upon category matches.

16. (Canceled)

17. (Previously Amended) The device claimed in claim 15, wherein said ranking comprises:

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determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile; and

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match of the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile.

18. (Original) The device claimed in claim 17, wherein each keyword match score is greater than a greatest possible category match score, and wherein said ranking is based upon said keyword match scores and said category match scores.

19. (Original) The device claimed in claim 17, wherein said programming event metadata further comprises a time and duration of the corresponding programming event, and

wherein said processing further comprises determining a programming event recording schedule in accordance with said keyword match scores and said category match scores of the programming events and the times and durations of the programming events.

20. (Previously Amended) The device claimed in claim 15, wherein said programming event metadata further comprises a time of the corresponding programming event, and

wherein said processing further comprises determining a programming event alert schedule in accordance with said ranking of the programming events and the times of the programming events.

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21. (Original) The device claimed in claim 20, wherein the schedule comprises not more than a predetermined number of programming events within a given time period as specified in a viewer profile.

22. (Original) The device claimed in claim 15, wherein said ranking comprises:

determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile;

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match between the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile; and

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determining a qualified keyword match score for each programming event having a qualified keyword match, wherein a qualified keyword match is a match between a qualified keyword of the at least one viewer profile and the at least one of descriptive data and keyword data of the metadata of a programming event having a goodness of fit score in the category associated with the qualified keyword.

23. (Original) The device claimed in claim 15, wherein the at least one viewer profile further comprises at least one qualified keyword comprising a keyword associated with a category of the category hierarchy,

wherein said ranking further uses the at least one qualified keyword of the at least one viewer profile to determine rank based upon qualified keyword matching, and

wherein said ranking is performed such that programming events having qualified keyword matches are ranked higher than programming events having keyword matches, programming events having keyword matches are ranked

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higher than programming events not having keyword matches and not having qualified keyword matches, and programming events not having keyword matches and not having qualified keyword matches are ranked based upon category match scores.

24. (Original) The device claimed in claim 23, wherein each qualified keyword match score is greater than a greatest possible keyword match score, each keyword match score is greater than a greatest possible category match score, and

wherein said ranking is based upon said qualified keyword match scores, said keyword match scores and said category match scores.

25. (Original) The device claimed in claim 23, wherein a programming event having a qualified keyword match is ranked relative to other programming events having qualified keyword matches in accordance with the preference score associated with the category of each matched qualified keyword in its corresponding viewer profile.

26. (Original) The device claimed in claim 23, wherein said programming event metadata further comprises a time and duration of the corresponding programming event, and

wherein said processing further comprises determining a programming event recording schedule in accordance with said qualified keyword match scores, said keyword match scores and said category match scores of the programming events and the times and durations of the programming events.

27. (Original) The device claimed in claim 23, wherein said programming event metadata further comprises a time of the corresponding programming event, and

wherein said processing further comprises determining a programming event alert schedule in accordance with said qualified keyword match scores,

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said keyword match scores and said category match scores of the programming events and the times of the programming events.

28. (Original) The device claimed in claim 27, wherein the schedule comprises not more than a predetermined number of programming events within a given time period as specified in a viewer profile.

29. (Currently Amended) A method of alerting a viewer of upcoming programming events of interest to the viewer, comprising:
receiving metadata describing programming events, the metadata that describes a programming event being comprised of goodness of fit scores associated with categories, and at least one of descriptive data and keyword data,

wherein the categories are arranged in a hierarchy comprising at least a set of top-level categories, respective sets of first level sub-categories each corresponding to and encompassed by a top level category, and respective sets of second level sub-categories each corresponding to and encompassed by a first level sub-category;
determining a programming event alert schedule in accordance with viewing preferences expressed in at least one viewer profile using said metadata, wherein each of the at least one viewer profiles is comprised of preference scores associated with categories of the classification hierarchy, and at least one keyword; and

providing alerts to a viewer in accordance with said alert schedule,
wherein determining said programming event alert schedule comprises ranking said programming events,

wherein said ranking uses the metadata goodness of fit scores and the viewer profile category preference scores to determine rank based on category matching, and

wherein said ranking further uses the at least one of metadata descriptive data and metadata keywords and the at least one keyword of the at least one viewer profile to determine rank based upon keyword matching.

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30. (Previously Amended) The method claimed in claim 29, wherein providing alerts comprises displaying a banner on a video screen describing a programming event in said programming event alert schedule.

31. (Original) The method claimed in claim 30, wherein a color of said banner indicates a viewer profile most closely matched by the corresponding programming event.

32. (Original) The method claimed in claim 30, wherein said banner comprises a description of said programming event including a highest scored matched keyword from metadata of said programming event, and a highest scored matched category from said programming event.

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33. (Original) The method claimed in claim 32, wherein said banner further comprises scores associated with said matched keyword and said matched category.

34. (Original) The method claimed in claim 29, wherein providing an alert comprises:

determining an amount of time in advance of a programming event to display an alert for the programming event from the at least one viewer profile; and

displaying an alert for programming events in said programming event schedule in accordance with said amount of time.

35. (Original) The method claimed in claim 29, further comprising displaying said programming event alert schedule in response to viewer input.

36. (Original) The method claimed in claim 35, further comprising removing an alert from the alert schedule in response to viewer input.

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37. (Original) The method claimed in claim 29, wherein determining a programming event alert schedule comprises selecting not more than a predetermined number of highest ranking programming events to occupy a given time period in said schedule.

38. (Original) The method claimed in claim 37, wherein said predetermined number and said given period of time are determined from said at least one viewer profile.

39. (Canceled)

40. (Currently Amended) The method claimed in claim 2939, wherein said ranking comprises:

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determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile; and

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile.

41. (Currently Amended) The method claimed in claim 2939, wherein the at least one viewer profile further comprises at least one qualified keyword comprising a keyword associated with a category of the category hierarchy, wherein said ranking further uses the at least one qualified keyword of the at least one viewer profile to determine rank based upon qualified keyword matching.

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42. (Original) The method claimed in claim 41, wherein said ranking comprises:

determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile;

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match between the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile; and

determining a qualified keyword match score for each programming event having a qualified keyword match, wherein a qualified keyword match is a match between a qualified keyword of the at least one viewer profile and the at least one of descriptive data and keyword data of the metadata of a programming event having a goodness of fit score in the category associated with the qualified keyword.

43. (Original) The method claimed in claim 29, wherein providing alerts comprises sending alerts to a communication device of the viewer.

44. (Currently Amended) A program-controlled device for alerting a viewer of upcoming programming events of interest to the viewer, the device comprising a computer readable medium having stored therein programming instructions to perform data processing, the processing comprising:

receiving metadata describing programming events, the metadata that describes a programming event being comprised of goodness of fit scores associated with categories, and at least one of descriptive data and keyword data,

wherein the categories are arranged in a hierarchy comprising at least a set of top-level categories, respective sets of first level sub-

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categories each corresponding to and encompassed by a top level category, and respective sets of second level sub-categories each corresponding to and encompassed by a first level sub-category; determining a programming event alert schedule in accordance with viewing preferences expressed in at least one viewer profile using said metadata, wherein each of the at least one viewer profiles is comprised of preference scores associated with categories of the classification hierarchy, and at least one keyword; and

providing alerts to a viewer in accordance with said alert schedule, wherein determining said programming event alert schedule comprises ranking said programming events,

wherein said ranking uses the metadata goodness of fit scores and the viewer profile category preference scores to determine rank based on category matching, and

wherein said ranking further uses the at least one of metadata descriptive data and metadata keywords and the at least one keyword of the at least one viewer profile to determine rank based upon keyword matching.

45. (Previously Amended) The device claimed in claim 44, wherein providing alerts comprises displaying a banner on a video screen describing a programming event in said programming event alert schedule.

46. (Original) The device claimed in claim 45, wherein a color of said banner indicates a viewer profile most closely matched by the corresponding programming event.

47. (Original) The device claimed in claim 45, wherein said banner comprises a description of said programming event including a highest scored matched keyword from metadata of said programming event, and a highest scored matched category from said programming event.

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48. (Original) The device claimed in claim 47, wherein said banner further comprises scores associated with said matched keyword and said matched category.

49. (Original) The device claimed in claim 44, wherein providing an alert comprises:

determining an amount of time in advance of a programming event to display an alert for the programming event from the at least one viewer profile; and

displaying an alert for programming events in said programming event schedule in accordance with said amount of time.

50. (Original) The device claimed in claim 44, said processing further comprising displaying said programming event alert schedule in response to viewer input.

51. (Original) The device claimed in claim 50, said processing further comprising removing an alert from the alert schedule in response to viewer input.

52. (Original) The device claimed in claim 44, wherein determining a programming event alert schedule comprises selecting not more than a predetermined number of highest ranking programming events to occupy a given time period in said schedule.

53. (Original) The device claimed in claim 52, wherein said predetermined number and said given period of time are determined from said at least one viewer profile.

54. (Canceled)

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55. (Currently Amended) The device claimed in claim 4454, wherein said ranking comprises:

determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile; and

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile.

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56. (Currently Amended) The device claimed in claim 4454, wherein the at least one viewer profile further comprises at least one qualified keyword comprising a keyword associated with a category of the category hierarchy, wherein said ranking further uses the at least one qualified keyword of the at least one viewer profile to determine rank based upon qualified keyword matching.

57. (Original) The device claimed in claim 56, wherein said ranking comprises:

determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile;

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match between the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile; and

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determining a qualified keyword match score for each programming event having a qualified keyword match, wherein a qualified keyword match is a match between a qualified keyword of the at least one viewer profile and the at least one of descriptive data and keyword data of the metadata of a programming event having a goodness of fit score in the category associated with the qualified keyword.

58. (Original) The device claimed in claim 44, wherein providing alerts comprises sending alerts to a communication device of the viewer.

59. (Currently Amended) A method of alerting a viewer of upcoming programming events of interest to the viewer, comprising:

receiving metadata describing programming events, the metadata for a programming event comprising at least one of categories describing the programming event and keywords describing the programming event;

determining a programming event alert schedule in accordance with said metadata and viewing preferences expressed in at least one viewer profile; and

displaying an alert for a programming event to the viewer in accordance with the alert schedule, the alert identifying the programming event and including at least one of a category and a keyword from the metadata for the programming event,

wherein the at least one of a category and a keyword from the metadata for the programming event that are displayed in the alert is a category or keyword that generates a highest score for said programming event in a ranking process used to determine said schedule.

60. (Canceled)

61. (Currently Amended) The method claimed in claim 59~~60~~, wherein the alert further includes a score associated with each category or keyword in the alert banner.

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62. (Previously Added) The method claimed in claim 59, wherein the programming event for which the alert is displayed is a segment of a television program.

63. (Previously Added) The method claimed in claim 59, wherein the alert indicates a viewer profile to which the alert corresponds.

64. (Previously Added) The method claimed in claim 59, wherein the alert further includes at least one of a title and a description of the programming event.

65. (Previously Added) The method claimed in claim 59, wherein the alert is displayed as a graphical alert banner that is displayed over a programming event currently being viewed.

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66. (Currently Amended) A program-controlled device for alerting a viewer of upcoming programming events of interest to the viewer, the device comprising a computer readable medium having stored therein programming instructions to perform data processing, the processing comprising:

receiving metadata describing programming events, the metadata for a programming event comprising at least one of categories describing the programming event and keywords describing the programming event;

determining a programming event alert schedule in accordance with said metadata and viewing preferences expressed in at least one viewer profile; and displaying an alert for a programming event to the viewer in accordance with the alert schedule, the alert banner identifying the programming event and including at least one of a category and a keyword from the metadata for the programming event,

wherein the at least one of a category and a keyword from the metadata for the programming event that are displayed in the alert is a category or keyword that generates a highest score for said programming event in a ranking process used to determine said schedule.

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67. (Canceled)

68. (Currently Amended) The device claimed in claim 66~~67~~, wherein the alert further includes a score associated with each category or keyword in the alert banner.

69. (Previously Added) The device claimed in claim 66, wherein the programming event for which the alert is displayed is a segment of a television program.

70. (Previously Added) The device claimed in claim 66, wherein the alert indicates a viewer profile to which the alert corresponds.

71. (Previously Added) The device claimed in claim 66, wherein the alert further includes at least one of a title and a description of the programming event.

72. (Previously Added) The device claimed in claim 66, wherein the alert is displayed as a graphical alert banner that is displayed over a programming event currently being viewed.

73. (Currently Amended) A method of alerting a viewer of upcoming programming events of interest to the viewer, comprising:

- receiving metadata describing programming events including individual segments of television programs, the metadata for a programming event comprising at least one of categories describing the programming event and keywords describing the programming event;
- determining a programming event alert schedule in accordance with said metadata and viewing preferences expressed in at least one viewer profile; and
- providing an alert to a viewer regarding a segment of a program in accordance with the alert schedule.

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wherein the alert identifying the programming event includes at least one of a category and a keyword from the metadata for the programming event, and

wherein the at least one of a category and a keyword from the metadata for the programming event that are displayed in the alert is a category or keyword that generates a highest score for said programming event in a ranking process used to generate said schedule.

74. (Canceled)

75. (Canceled)

76. (Currently Amended) The method claimed in claim ~~73~~⁷⁵, wherein the alert further includes a score associated with each category or keyword in the alert.

77. (Previously Added) The method claimed in claim 73, wherein the alert indicates a viewer profile to which the alert corresponds.

78. (Previously Added) The method claimed in claim 73, wherein the alert further includes at least one of a title and a description of the programming event.

79. (Previously Added) The method claimed in claim 73, wherein the alert is displayed as a graphical alert banner that is displayed over a programming event currently being viewed.

80. (Currently Amended) A program-controlled device for alerting a viewer of upcoming programming events of interest to the viewer, the device comprising a computer readable medium having stored therein programming instructions to perform data processing, the processing comprising:
receiving metadata describing programming events including individual segments of television programs, the metadata for a programming event

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comprising at least one of categories describing the programming event and keywords describing the programming event;

determining a programming event alert schedule in accordance with said metadata and viewing preferences expressed in at least one viewer profile; and providing an alert to a viewer regarding a segment of a program in accordance with the alert schedule,

wherein the alert identifying the programming event includes at least one of a category and a keyword from the metadata for the programming event, and

wherein the at least one of a category and a keyword from the metadata for the programming event that are displayed in the alert is a category or keyword that generates a highest score for said programming event in a ranking process used to generate said alert schedule.

81. (Canceled)

82. (Canceled)

83. (Currently Amended) The device claimed in claim 80~~82~~, wherein the alert further includes a score associated with each category or keyword in the alert.

84. (Previously Added) The device claimed in claim 80, wherein the alert indicates a viewer profile to which the alert corresponds.

85. (Previously Added) The device claimed in claim 80, wherein the alert further includes at least one of a title and a description of the programming event.

86. (Previously Added) The device claimed in claim 80, wherein the alert is displayed as a graphical alert banner that is displayed over a programming event currently being viewed.